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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,229	12/14/2000	Jin-Hong Kim	850795.90026	6287

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STEVEN J. WIETRZNY
Quarles and Brady LLP
411 East Wisconsin Avenue
MILWAUKEE, WI 53202

EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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09/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/737,229

Applicant(s)

KIM, JIN-HONG

Examiner

Willie J. Daniel, Jr.

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 03 July 2007. **Claims 6-8** are now pending in the present application and **claims 1-5** are canceled. This office action is made **Final**.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Houde et al.**

(hereinafter Houde) (**US 5,978,678**) in view of **Hammer et al.** (hereinafter Hammer) (**US 2003/0166403 A1**) and **Koster (US 6,259,914 B1)**.

Regarding **claims 6-8**, Houde discloses a method of providing (i.e., delivering) a wireless communication service (i.e., incoming call) to a first country roaming mobile station (16(1)) (see abstract; col. 1, lines 18-20; col. 5, lines 1-5; Fig. 1), the method comprising the steps of:

registering the first country roaming mobile station (16(1)) at a switching node (34 SN/VLR) which reads on the claimed "MSC" in a second country (see abstract; col. 2, lines 22-32; col. 4, lines 28-67; col. 6, lines 7-12; Fig. 1),

the second country MSC (34) (see abstract; Fig. 1):

receiving a routing request message (e.g., 206 signal) for the first country roaming mobile station (16(1)) and determining whether the routing request message is for an international call (see col. 2, lines 33-40; col. 5, lines 22-43; col. 6, lines 24-36; Figs. 1 and 3);

receiving a virtual origination number from a second country (see col. 4, lines 19-25);

when the routing request message (206) is for an international call (see col. 2, lines 33-40; col. 5, lines 22-43; col. 6, lines 24-36; Figs. 1 and 3),

the second country MSC (34) (see abstract; Fig. 1) further:

generating an international routing number for the first country roaming mobile station (see abstract; col. 2, lines 37-55; col. 5, line 29 - col. 6, line 4; col. 6, lines 26-53; Figs. 1 and 3). Houde does not specifically disclose having the features the second country MSC further: receiving a virtual origination number from a HLR in the second country; generating an international routing number; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received. However, the examiner maintains that the feature the second country MSC further generating an international routing number was well known in the art, as taught by Hammer.

In the same field of endeavor, Hammer discloses the feature the second country MSC further: generating an international routing number (see abstract; pgs. 1-2, [0011]; pg. 2, [0015-0016]; pgs. 3-4, [0037-0044]; pg. 4-5, [0045]; Figs. 4 and 5), where providing international roaming service to an international roaming mobile station (430) in which a mobile switching center (MSC 420) in a serve domain (foreign country) generates an

international routing number for the mobile station (430) when the MSC (420) receives a routing request.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Houde and Hammer to have the features the second country MSC further: generating an international routing number, in order for allowing an international roaming mobile station to receive calls in a country with a different numbering plan, as taught by Hammer (see pg. 2, [0012]). The combination of Houde and Hammer does not specifically disclose having the features receiving a virtual origination number from a HLR in the second country; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received. However, the examiner maintains that the feature assigning a virtual origination number to the international roaming mobile station when a call origination request from the international roaming mobile station is received was well known in the art, as taught by Koster.

In the same field of endeavor, Koster discloses the features receiving a mobile directory number which reads on the claimed “virtual origination number” from a HLR in the second country (see abstract; col. 3, lines 42-53; col. 4, lines 3-14; col. 6, lines 8-17);

assigning a mobile directory number which reads on the claimed “virtual origination number” to the international roaming mobile station (100) when a call origination request from the international roaming mobile station (100) is received (see abstract; col. 3, lines 42-53; col. 4, lines 3-14; col. 6, lines 8-17; Fig. 1), where the MSC (110) provides the number.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Houde, Hammer, and Koster to have the features receiving a virtual origination number from a HLR in the second country; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received, in order to allow the international roaming cellular mobile station subscriber to also originate calls in the visiting country without regard to the numbering scheme plan in said visiting country by assigning a virtual origination number (i.e., mobile directory number) that is, for example, a valid North American Numbering Plan (NANP) formatted number. By assigning such number, any call originated by a mobile station subscriber, of a cellular system located in, for example, Canada or the United States, in said visiting country would have been treated by any PSTN switch as a normal call, as taught by Koster (see abstract; col. 3, lines 53-55), thereby allowing the system to be configured easily and facilitate service to international roamers.

Regarding **claim 7**, the combination of Houde and Hammer discloses every limitation claimed as applied above in claim 6. The combination of Houde and Hammer does not specifically disclose having the feature wherein the MSC further generates a call connect message having the virtual origination number instead of a calling party number. However, the examiner maintains that the feature wherein the MSC further generates a call connect message having the virtual origination number instead of a calling party number was well known in the art, as taught by Koster.

Koster further discloses the feature wherein the MSC further generates a call setup request (510) which reads on the claimed “call connect message” having the virtual origination number instead of a calling party number (i.e., mobile directory number) (see col. 6, lines 30-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Houde, Hammer, and Koster to have the feature wherein the MSC further generates a call connect message having the virtual origination number instead of a calling party number, in order to allow the international roaming cellular mobile station subscriber to also originate calls in the visiting country without regard to the numbering scheme plan in said visiting country by assigning a virtual origination number (i.e., mobile directory number) that is, for example, a valid North American Numbering Plan (NANP) formatted number. By assigning such number, any call originated by a mobile station subscriber, of a cellular system located in, for example, Canada or the United States, in said visiting country would have been treated by any PSTN switch as a normal call, as taught by Koster (see abstract; col. 3, lines 53-55), thereby allowing the system to be configured easily and facilitate service to international roamers.

Regarding **claim 8**, the combination of Houde, Hammer, and Koster discloses every limitation claimed, as applied above (see claim 6), in addition Houde further discloses the method of claim 6, wherein the international routing number includes a temporary local directory number, a country code, and a system operator code (i.e., operator code) (see col. 2, lines 37-55; col. 5, line 29 - col. 6, line 4; col. 6, line 26-53; Fig. 3).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Houde et al.** (hereinafter Houde) (**US 5,978,678**) in view of **Kunz (US 5,353,340)** and **Koster (US 6,259,914 B1)**.

Regarding **claims 6**, Houde discloses a method of providing (i.e., delivering) a wireless communication service (i.e., incoming call) to a first country roaming mobile station (16(1)) (see abstract; col. 1, lines 18-20; col. 5, lines 1-5; Fig. 1), the method comprising the steps of:

registering the first country roaming mobile station (16(1)) at a switching node (34 SN/VLR) which reads on the claimed “MSC” in a second country (see abstract; col. 2, lines 22-32; col. 4, lines 28-67; col. 6, lines 7-12; Fig. 1),

the second country MSC (34) (see abstract; Fig. 1):

receiving a routing request message (e.g., 206 signal) for the first country roaming mobile station (16(1)) and determining whether the routing request message is for an international call (see col. 2, lines 33-40; col. 5, lines 22-43; col. 6, lines 24-36; Figs. 1 and 3);

receiving a virtual origination number from a second country (see col. 4, lines 19-25);

when the routing request message (206) is for an international call (see col. 2, lines 33-40; col. 5, lines 22-43; col. 6, lines 24-36; Figs. 1 and 3),

the second country MSC (34) (see abstract; Fig. 1) further:

generating an international routing number for the first country roaming mobile station (see abstract; col. 2, lines 37-55; col. 5, line 29 - col. 6, line 4; col. 6, lines 26-53; Figs. 1 and 3). Houde does not specifically disclose having the features the second country MSC further: receiving a virtual origination number from a HLR in the second country; generating an

international routing number; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received. However, the examiner maintains that the feature the second country MSC further: generating an international routing number was well known in the art, as taught by Kunz.

In the same field of endeavor, Kunz discloses the feature the second country MSC further: generating an international routing number (e.g., intra-foreign service exchange number) (see col. 35, lines 30-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Houde and Kunz to have the features the second country MSC further: generating an international routing number, in order to economically allocate roamer routing numbers in a communication system, as taught by Kunz (see col. 4, lines 8-10). The combination of Houde and Kunz does not specifically disclose having the features receiving a virtual origination number from a HLR in the second country; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received. However, the examiner maintains that the features receiving a virtual origination number from a HLR in the second country; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received was well known in the art, as taught by Koster.

In the same field of endeavor, Koster discloses the features

receiving a mobile directory number which reads on the claimed “virtual origination number” from a HLR in the second country (see abstract; col. 3, lines 42-53; col. 4, lines 3-14; col. 6, lines 8-17);

assigning the mobile directory number which reads on the claimed “virtual origination number” to the first country roaming mobile station (100) when a call origination request from the first country roaming mobile station (100) is received (see abstract; col. 3, lines 42-53; col. 4, lines 3-14; col. 6, lines 8-17; Fig. 1), where the MSC (110) provides the number.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Houde, Kunz, and Koster to have the features receiving a virtual origination number from a HLR in the second country; assigning the virtual origination number to the first country roaming mobile station when a call origination request from the first country roaming mobile station is received, in order to allow the international roaming cellular mobile station subscriber to also originate calls in the visiting country without regard to the numbering scheme plan in said visiting country by assigning a virtual origination number (i.e., mobile directory number) that is, for example, a valid North American Numbering Plan (NANP) formatted number. By assigning such number, any call originated by a mobile station subscriber, of a cellular system located in, for example, Canada or the United States, in said visiting country would have been treated by any PSTN switch as a normal call, as taught by Koster (see abstract; col. 3, lines 53-55), thereby allowing the system to be configured easily and facilitate service to international roamers.

Response to Arguments

3. Applicant's arguments with respect to claims 6-8 have been considered but are moot in view of the new ground(s) of rejection necessitated by the amended language and/or new limitations.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR
10 September 2007


CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER